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| EXAMINER | |
|---|---|
| PHAN, HANH | |
| **ART UNIT** | **PAPER NUMBER** |
| 2638 | |

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/464,077 | GERSTEL, ORNAN A. | |
| | Examiner | Art Unit | |
| | Hanh Phan | 2638 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 December 1999*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-89* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *27-35 and 84-87* is/are allowed.

6)☒ Claim(s) *1-26,36-83,88 and 89* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## DETAILED ACTION

1. This Office Action is responsive to the Amendment filed on 07/05/2005.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-26, 36-83, 88 and 89 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehana et al (US Patent No. 6,081,359) in view of Mestdagh et al (US Patent No. 5,299,293) and further in view of Oberg et al (US Patent No. 6,915,075).

Regarding claims 1, 11, 36, 48, 65, 69, 88 and 89, referring to Figure 2, Takehana discloses a line node for a communication network, the line node being coupled to at least one first terminal (i.e., at least one first terminal 1-1, 1-2,..., 1-n , Fig. 2) through at least one first link and to at least one second terminal (i.e., at least one second terminal 16-1, 16-2,..., 16-n, Fig. 2) through at least one second link, the line node comprising:

at least one first communication path (i.e., a first communication path 18, Fig. 2) having a first end coupled to the at least one first link and a second end coupled to the at least one second link, the at least one first communication path (8) for routing signals received from the at least one first terminal (i.e., at least one first terminal 1-1, 1-2,..., 1-

n , Fig. 2) towards the at least one second terminal (i.e., at least one second terminal 16-1, 16-2,..., 16-n, Fig. 2)(col. 3, lines 65-67, col. 4, lines 1-67 and col. 5, lines 1-34);

at least one splitter (i.e., optical dividers 50, Fig. 2) having an input, a first output, and a second output, the input and the first output being coupled in the at least one communication path, the at least one splitter (i.e., optical dividers 50, Fig. 2) being responsive to receiving a signal for outputting first and second signal portions through the first and second outputs, respectively (col. 4, lines 9-16);

a first switch (i.e., optical switch 7, Fig. 2) having an output coupled to the at least one second link (col. 4, lines 9-50);

means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5, Fig. 2) for detecting a failure in the at least one first communication path; and

a controller (i.e., controller 4, Fig. 2) coupled to the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5) and to the first switch (i.e., optical switch 7), the controller (4) being responsive to the detecting means detecting a failure in the at least one first communication path for controlling the first switch (i.e., optical switch 7) to couple the second output of the splitter (i.e., optical divider 50) to the at least one second link, for routing the second signal portion towards the at least one second terminal (col. 4, lines 9-67 and col. 5, lines 1-34).

Takehana differs from claims 1, 11, 36, 48, 65, 69, 88 and 89 in that he fails to specifically teach the second output of the at least one splitter is connected directly to the first switch and line node being bi-directionally coupled to at least one first terminal

through at least one first link and to at least one second terminal through at least one second link. However, Mestdagh in US Patent No. 5,299,293 teaches the second output of the at least one splitter is connected directly to the first switch (Fig. 1, col. 2, lines 45-67 and col. 3, lines 1-41) and Oberg in US Patent No. 6,915,075 teaches the line node being bi-directionally coupled to at least one first terminal through at least one first link and to at least one second terminal through at least one second link (Figs. 2-7, from col. 4, line to col. 8, line 45). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the second output of the at least one splitter is connected directly to the first switch and the line node being bi-directionally coupled to at least one first terminal through at least one first link and to at least one second terminal through at least one second link as taught by Mestdagh and Oberg in the system of Takehana. One of ordinary skill in the art would have been motivated to do this since Mestdagh suggests in column 2, lines 45-67 and col. 3, lines 1-41 and Oberg suggests in from column 4, line 32 to col. 8, line 45 that using such incorporate the second output of the at least one splitter is connected directly to the first switch and the line node being bi-directionally coupled to at least one first terminal through at least one first link and to at least one second terminal through at least one second link have advantage of allowing protecting an optical transmitter device and an optical receiver device and detecting a defective transmit/receive circuit and the user terminals can simultaneously transmits and receives the signals in the network communication system.

Regarding claim 2, the combination of Takehana, Mestdagh and Oberg teaches further comprising:

at least one second communication path having a first end coupled to the at least one first link and a second end coupled to the at least one second link, said at least one second communication path for routing signals received over the at least one second link from the second terminal towards the first terminal (see Figs. 2-7 of Oberg); and

at least one second switch ( Figs. 2-7 of Oberg) having an input coupled to the at least one second link;

wherein the detecting means is also for detecting a failure in the at least one second communication path, and the controller (Figs. 2-7 of Oberg) is responsive to the detecting means detecting a failure in the at least one second communication path for controlling the second switch to couple the at least one second link to the at least one first link, for routing signals received from the at least one second terminal over the at least one second link towards the at least one first terminal .

Regarding claims 3 and 40, the combination of Takehana, Meatdagh and Oberg teaches wherein the at least one first communication path includes a plurality of first communication paths, and the at least one splitter includes a plurality of splitters (i.e., optical dividers 50, Fig. 2), each of the splitters (50) having an input and a first output that are both coupled in a respective one of the first communication paths, each of the splitters (50) also having a second output, the first switch (i.e., optical switch 7, Fig. 2) having a plurality of inputs coupled to the second outputs of the splitters (50), respectively, and wherein the controller (i.e., controller 4, Fig. 2) controls the first switch

(7) to couple the second output of the splitter (50) coupled in the path in which the failure is detected to the at least one second link (see Fig. 2 of Takehana and Fig. 1 of Mestdagh).

Regarding claims 4 and 41, the combination of Takehana, Mestdagh and Oberg further teaches the at least one second communication path includes a plurality of second communication paths, and the at least one second switch includes a switching device (i.e., switch 42, Fig. 4 of Takehana) and a plurality of switching elements (i.e., switches 20, Fig. 4 of Takehana), the switching device having an input coupled to the at least one second link and a plurality of outputs, each switching element having a first input coupled in a respective one of the second communication paths, a second input coupled to a respective one of the outputs of the switching device, and an output coupled to the at least one first link, and wherein the controller (i.e., controller 12, Fig. 4 of Takehana) responds to the detecting means detecting a failure in a second communication path by controlling the switching device to couple signals received over the at least one second link to the second input of the switching element coupled in that path, and by controlling that switching element to further couple those signals to the at least one first link (see Fig. 4 of Takehana, Fig. 1 of Mestdagh, and Figs 2-7 of Oberg).

Regarding claim 5, the combination of Takehana, Mestdagh and Oberg further teaches the detecting means also detects when individual ones of the second communication paths become active, and the controller responds thereto by controlling a corresponding one of the switching elements to couple signals in that path to the at

least one first link, for routing those signals towards the at least one first terminal (see Fig. 4 of Takehana, Fig. 1 of Mestdagh and Figs. 2-7 of Oberg).

Regarding claims 6, 49, 60 and 66, the combination of Takehana, Mestdagh and Oberg further teaches the controller (i.e., controller 4, Fig. 4 of Takehana) also is coupled to the other node, and is responsive to the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5, Fig. 4 of Takehana) detecting the failure for notifying the other node of the detected failure (see Fig. 4 of Takehana and Fig. 1of Mestdagh).

Regarding claims 7, 58 and 59, the combination of Takehana, Mestdagh and Oberg further teaches the controller (i.e., controller 4, Fig. 4 of Takehana) also is coupled to the other node, and is responsive to at least one of the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5 , Fig. 4 of Takehana) detecting the failure and the line node receiving information from the other node (i.e., receiving unit 15 receives supervisory signal SV, Fig. 4 of Takehana) indicating that a failure has been detected in that node for controlling the first switch to couple the second signal portion to the at least one second link.

Regarding claims 8, 42, 54 and 63, the combination of Takehana, Mestdagh and Oberg teaches further comprising a multiplexer interposed between the at least one second link and the plurality of splitters, the multiplexer having an output coupled to the at least one second link, the multiplexer also having and a plurality of inputs, each of which is coupled to a first output of a respective one of the splitters (see Fig. 4 of Takehana, Fig. 1of Mestdagh and Figs. 2-7 of Oberg).

Regarding claims 9, 18, 19, 43, 44, 51, 61, 75 and 76, the combination of Takehana, Mestdagh and Oberg teaches further comprising a first transponder (i.e., transponder 2-r, Fig. 4) and plurality of second transponders (i.e., transponders 2-1, 2-2,..., 2-n, Fig. 4), the first transponder (transponder 2-r) being interposed between an output of the first switch (switch 7) and another input of the multiplexer (multiplexer 8 of Takehana), the second transponders (transponders 2-1, 2-2...2-n) being interposed in respective ones of the first communication paths between the splitters (splitters 50) of those paths and the multiplexer.

Regarding claims 10, 26, 38, 47, 50, 64 and 67, Takehana further teaches the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5 , Fig. 4 ) detects the failure in the at least one communication path by detecting a loss of light in the path.

Regarding claims 12, 52, 62 and 70, the combination of Takehana, Mestdagh and Oberg teaches each of the first terminals (i.e., terminals 1-1, 1-2,...,1-n, Fig. 4 of Takehana) provides signals to the line node over either the first or second link coupled thereto, depending on which link is determined to be active by that terminal (see Fig. 4 of Takehana, Fig. 1of Mestdagh and Figs. 2-7 of Oberg).

Regarding claims 13, 46 and 71, the combination of Takehana, Mestdagh and Oberg teaches each of the first terminals accepts signals from either the first or second link coupled thereto, depending on which link is determined to be active by that terminal (see Fig. 4 of Takehana, Fig. 1 of Mestdagh and Figs. 2-7 of Oberg).

Regarding claims 14, 53, 68 and 72, the combination of Takehana, Mestdagh and Oberg teaches the line node is coupled to the at least one second terminal through both the at least one third link (i.e., transmission link 18, Fig. 4 of Takehana) and at least one other node, and the controller (i.e., controller 4, Fig. 4 of Takehana) is coupled to the at least one other node, and is responsive to the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5', Fig. 4 of Takehana) detecting the failure for notifying the at least one other node of the detected failure.

Regarding claims 15, 55-57 and 73, the combination of Takehana, Mestdagh and Oberg teaches the line node is coupled to the at least one second terminal through both the at least one third link and at least one other node, wherein the controller is coupled to the at least one other node, and is responsive to at least one of the detecting means detecting the failure in the communication path or the controller receiving from the other node information indicating that a failure has been detected in that node for controlling the switch to couple a corresponding one of the second links to the at least one third link (see Fig. 4 of Takehana, Fig. 1 of Mestdagh and Figs. 2-7 of Oberg).

Regarding claims 16, 17, 20, 39, 74 and 77, the combination of Takehana, Mestdagh and Oberg teaches comprising a multiplexes/demultiplexer (i.e., couplers 71 and 72, Fig. 4 of Takada) interposed between the at least one third link and the plurality of communication paths, the multiplexes/demultiplexer having a terminal coupled to the at least one third link and a plurality of other terminals each of which is coupled to the second end a respective one of the communication paths.

Regarding claims 21 and 83, the combination of Takehana, Mestdagh and Oberg teaches the controller (i.e., controller 4, Fig. 4 of Takehana) also is responsive to the detecting means (i.e., transponder input supervising unit 3 and transponder output supervising unit 5 , Fig. 4 of Takehana) detecting the failure in the communication path for controllably disabling the transponder interposed in that path.

Regarding claim 22, the combination of Takehana, Mestdagh and Oberg teaches the detecting means(i.e., transponder input supervising unit 3 and transponder output supervising unit 5 , Fig. 4 of Takehana) also detects when individual ones of the communication paths become active, and the controller (i.e., controller 4, Fig. 4 of Takehana) is responsive thereto for controllably enabling the transponders interposed in those paths.

Regarding claims 23, 37 and 80, Takehana further teaches the line node is coupled to the at least one second terminal (i.e., the second terminal including the terminals 16-1, 16-2,..., 16-n, Fig. 4) through both the at least one third link (i.e., transmission link 18, Fig. 4) and at least one other node, and the at least one second terminal includes a plurality of second terminals, wherein the other node is coupled to each second terminal through both a fourth link and a fifth link, and wherein the other node comprises:

a plurality of further communication paths for routing signals being communicated between the first and second terminals through the other node, each further communication path having a first end coupled to the at least one third link and a second end coupled to a respective fourth link;

a further switch (i.e., switch 42, Fig. 4) having a plurality of first terminals and a second terminal, each of the first terminals of the further switch being coupled to a respective fifth link, the second terminal of the further switch being coupled to the at least one third link;

a least one detector (i.e., detector unit 15, Fig. 4) for detecting a failure in at least one of the further communication paths; and

a further controller (i.e., controller 12, Fig. 4), coupled to the at least one detector and to the further switch, and being responsive to the at least one detector detecting a failure in at least one of the further communication paths for controlling the further switch to couple a corresponding one of the fifth links to the at least one third link, for providing an alternate route through those links for routing the signals.

Regarding claims 24, 81 and 82, Takehana further teaches the controller (i.e., controller 4, Fig. 4) of the line node is coupled to the further controller (i.e., controller 12, Fig. 4) of the other node, and at least one of said controller and said further controller notifies the other controller of a detection of a failure in a communication path.

Regarding claims 25, 45, 78, 79 and 82, the combination of Takehana, Metsdagh and Oberg teaches the controller (controller 4, Fig. 4 of Takehana) also is coupled to said further controller (controller 12, Fig. 4 of Takehana), and said controller is responsive to receiving from the further controller an indication that a failure has been detected in one of said further communication paths for controlling said switch to couple a corresponding one of the second links to the at least one third link, for providing an

alternate route for routing the signals through those links (see Fig. 4 of Takehana and Figs. 2-7 of Oberg).

### *Allowable Subject Matter*

4. Claims 27-35 and 84-87 are allowed.

### *Response to Arguments*

5. Applicant's arguments with respect to claims 1-89 have been considered but are moot in view of the new ground(s) of rejection.

### *Conclusion*

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye, can be reached on (571)272-3078. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

Hanh Phan

**HANH PHAN**
**PRIMARY EXAMINER**